

Interview Summary

Application No.

09/139,425

Applicant(s)

ESMON ET AL.

Examiner

Sumesh Kaushal Ph.D.

Art Unit

1636

All participants (applicant, applicant's representative, PTO personnel):

(1) Sumesh Kaushal Ph.D.

(3) _____

(2) Patrea L. Pabst.

(4) _____

Date of Interview: 07 May 2003.

Type: a) ☒ Telephonic b) ☐ Video Conference
c) ☐ Personal [copy given to: 1) ☐ applicant 2) ☐ applicant's representative]

Exhibit shown or demonstration conducted: d) ☐ Yes e) ☒ No.

If Yes, brief description: _____.

Claim(s) discussed: 1-25.

Identification of prior art discussed: Baumgatner et al Circulation 97:1114-1123, 1998.

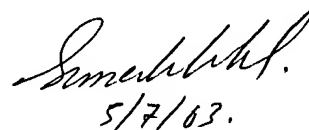
Agreement with respect to the claims f) ☐ was reached. g) ☒ was not reached. h) ☐ N/A.

Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: See Continuation Sheet.

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

THE FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN ONE MONTH FROM THIS INTERVIEW DATE TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW. See Summary of Record of Interview requirements on reverse side or on attached sheet.

Examiner Note: You must sign this form unless it is an Attachment to a signed Office action.


5/7/03.

Examiner's signature, if required

Summary of Record of Interview Requirements

Manual of Patent Examining Procedure (MPEP), Section 713.04, Substance of Interview Must be Made of Record

A complete written statement as to the substance of any face-to-face, video conference, or telephone interview with regard to an application must be made of record in the application whether or not an agreement with the examiner was reached at the interview.

Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews

Paragraph (b)

In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as warranting favorable action must be filed by the applicant. An interview does not remove the necessity for reply to Office action as specified in §§ 1.111, 1.135. (35 U.S.C. 132)

37 CFR §1.2 Business to be transacted in writing.

All business with the Patent or Trademark Office should be transacted in writing. The personal attendance of applicants or their attorneys or agents at the Patent and Trademark Office is unnecessary. The action of the Patent and Trademark Office will be based exclusively on the written record in the Office. No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

The action of the Patent and Trademark Office cannot be based exclusively on the written record in the Office if that record is itself incomplete through the failure to record the substance of interviews.

It is the responsibility of the applicant or the attorney or agent to make the substance of an interview of record in the application file, unless the examiner indicates he or she will do so. It is the examiner's responsibility to see that such a record is made and to correct material inaccuracies which bear directly on the question of patentability.

Examiners must complete an Interview Summary Form for each interview held where a matter of substance has been discussed during the interview by checking the appropriate boxes and filling in the blanks. Discussions regarding only procedural matters, directed solely to restriction requirements for which interview recordation is otherwise provided for in Section 812.01 of the Manual of Patent Examining Procedure, or pointing out typographical errors or unreadable script in Office actions or the like, are excluded from the interview recordation procedures below. Where the substance of an interview is completely recorded in an Examiners Amendment, no separate Interview Summary Record is required.

The Interview Summary Form shall be given an appropriate Paper No., placed in the right hand portion of the file, and listed on the "Contents" section of the file wrapper. In a personal interview, a duplicate of the Form is given to the applicant (or attorney or agent) at the conclusion of the interview. In the case of a telephone or video-conference interview, the copy is mailed to the applicant's correspondence address either with or prior to the next official communication. If additional correspondence from the examiner is not likely before an allowance or if other circumstances dictate, the Form should be mailed promptly after the interview rather than with the next official communication.

The Form provides for recordation of the following information:

- Application Number (Series Code and Serial Number)
- Name of applicant
- Name of examiner
- Date of interview
- Type of interview (telephonic, video-conference, or personal)
- Name of participant(s) (applicant, attorney or agent, examiner, other PTO personnel, etc.)
- An indication whether or not an exhibit was shown or a demonstration conducted
- An identification of the specific prior art discussed
- An indication whether an agreement was reached and if so, a description of the general nature of the agreement (may be by attachment of a copy of amendments or claims agreed as being allowable). Note: Agreement as to allowability is tentative and does not restrict further action by the examiner to the contrary.
- The signature of the examiner who conducted the interview (if Form is not an attachment to a signed Office action)

It is desirable that the examiner orally remind the applicant of his or her obligation to record the substance of the interview of each case. It should be noted, however, that the Interview Summary Form will not normally be considered a complete and proper recordation of the interview unless it includes, or is supplemented by the applicant or the examiner to include, all of the applicable items required below concerning the substance of the interview.

A complete and proper recordation of the substance of any interview should include at least the following applicable items:

- 1) A brief description of the nature of any exhibit shown or any demonstration conducted,
- 2) an identification of the claims discussed,
- 3) an identification of the specific prior art discussed,
- 4) an identification of the principal proposed amendments of a substantive nature discussed, unless these are already described on the Interview Summary Form completed by the Examiner,
- 5) a brief identification of the general thrust of the principal arguments presented to the examiner,
(The identification of arguments need not be lengthy or elaborate. A verbatim or highly detailed description of the arguments is not required. The identification of the arguments is sufficient if the general nature or thrust of the principal arguments made to the examiner can be understood in the context of the application file. Of course, the applicant may desire to emphasize and fully describe those arguments which he or she feels were or might be persuasive to the examiner.)
- 6) a general indication of any other pertinent matters discussed, and
- 7) if appropriate, the general results or outcome of the interview unless already described in the Interview Summary Form completed by the examiner.

Examiners are expected to carefully review the applicant's record of the substance of an interview. If the record is not complete and accurate, the examiner will give the applicant an extendable one month time period to correct the record.

Examiner to Check for Accuracy

If the claims are allowable for other reasons of record, the examiner should send a letter setting forth the examiner's version of the statement attributed to him or her. If the record is complete and accurate, the examiner should place the indication, "Interview Record OK" on the paper recording the substance of the interview along with the date and the examiner's initials.

Continuation of Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments:

Claims 1-25 were discussed regarding Lack of Enablement under 35 USC 112(1).

The applicant argues that the invention is enabled since it does not require undue amount of experimentation to exercise the invention as claimed. The applicant argues that applicant has provided examples that when taken in combination with state of art at the time of filing clearly enables the invention of claims 5 and 6. The applicant further argues that claims 1 does not require any treatment and claim 12 recites that the method is used only in an individual in need of treatment or diagnosis. Discussing the applicant's response filed on Paper No:25 (06/27/02) and Paper No:28 (12/11/02) the applicant argues that Example 1 and Fig-1 in the specification illustrate the efficiency of reporter gene transfer to the nucleus of endothelial cells. Based upon this in-vitro experimentation wherein a reporter gene DNA has been complexed with anti-EPCR antibody, the applicant presumed that these complexes would be efficiently taken up by the endothelial cells harboring the receptors in-vivo (Paper No:25, page 7-8, Paper No:28 pages 5-6). The applicant further argues that the invention as claimed is enabled for in-vivo use especially in view of Baumgatner et al (Circulation 97:1114-1123, 1998 .) The applicant argues that data presented in Baumgatner et al demonstrate that transfer of naked DNA to endothelial cells resulted in healing or improvement of non-healing ischemic ulcers and/or rest pain due to peripheral arterial diseases. The applicant argues that Baumgatner explicitly teaches successful gene therapy to endothelial cells by demonstrating intra-muscular gene transfer to endothelial cells in need of treatment using plasmid DNA encoding an endothelial cell mitogen (Paper No: 28, page 7) The applicant argues that office has not met the burden to establish that the invention as claimed is not enabled especially in view of Baumgatner (see Paper No:25, pages 8-9; Paper No:28 pages 6-8).

However, this is found NOT persuasive since the office action mailed on 02/12/03 (Paper No:29) clearly discussed the applicants remarks and provided the evidence why the instant invention as claimed is not enabled in view of the state of the art at the time of filing (see Paper NO: 29, especially pages 4-8). The art at the time of filing teaches that the gene therapy is considered highly experimental area of research at this time, and both researchers and the public agree that demonstrable progress to date has fallen short of initial expectations. (Rosenberg et al, Science 287:1751, 2000, Anderson WF, Nature 392:25-30, 1998; Verma et al Nature 389:239-242, 1997, Touchette, Nat. Med. 2(1) 7-8, 1996). The applicant fails to consider the unpredictable nature of gene therapy in view of cited art of record.

Furthermore the office action clearly discussed Baumgartner et al and concluded that instant invention encompasses a method which is distinct from a method that employs direct intra-muscular DNA injection (*see Paper No:29 pages 6-7*). At best Baumgartner only teaches "A total dose of 4000 microg of naked plasmid DNA encoding the 165-amino-acid isoform of human vascular endothelial growth factor (phVEGF165) was injected directly into the muscles of the ischemic limb" see abstract, page 115, col.1).

FACTUAL ANALYSIS: In contrast the scope of instant invention as claimed encompasses delivering any and all kinds of molecules to the nucleus of endothelial cell of a large vessel (in-vivo) via any and all routes of administration. At best the instant specification only teaches delivery of a reporter gene transfer via DNA anti-EPCRmAb-poly-L-lysine complex in EA.hy926 cells in-vitro (example-1, fig-1)*. The specification even fails to disclose that the use of DNA-anti-EPCRmAb-poly-L-lysine complex would not deliver the DNA-anti-EPCRmAb-poly-L-lysine complex to cells that do not express EPC-Receptor. Accordingly such a complex (containing poly-L-lysine) when administered in vivo would bind to any and all kinds of cells found in blood circulation (other than endothelial cells) prior to reaching the target cells expressing EPCR. The prior office action clearly provided the evidence that "The infused particles binds to many cells they encounter in circulation and therefor would be diluted out before reaching their targets (see Anderson WF, page 25 col.2, para.4)" see Paper NO;29, page 6). In addition, the prior office action clearly provided the evidence that the expression of Endothelial Protein C Receptor (EPCR) is not limited to endothelial cells of aorta but the EPCR is also expressed in abundance in heart and placenta in addition to lungs, kidney and pancreas (see Fukudome et al, J Exp Med. 6;187(7):1029-35, 1998). The specification fails to provide a single working example that teaches the delivery of a single molecule to the nucleus of an endothelial cell expressing EPC-receptor in vivo. Therefore considering the Baumgartner's disclosure in view of Rosenberg et al, Science 287:1751, 2000, Anderson WF, Nature 392:25-30, 1998; Verma et al Nature 389:239-242, 1997, Touchette, Nat. Med. 2(1) 7-8, 1996), Fukudome et al, J Exp Med. 6;187(7):1029-35, 1998 and [especially] in view applicant's limited disclosure* one skill in the art would immediately recognize that invention as claimed is highly unpredictable, since the scope of the invention as claimed is not limited to direct intra-muscular DNA-injection. Thus, considering the limited amount of guidance provided in the instant specification one skill in the art would have to engage in excessive and undue amount of experimentation to exercise the invention as claimed.

LEGAL STANDARD: It is noted that patent protection is granted in return for an enabling disclosure of an invention, not for vague intimations of general ideas that may or may not be workable (*See Brenner v. Manson*, 383 U.S. 519, 536, 148 USPQ 689, 696 (1966), *Stating, in context of the utility requirement, that "a patent is not a hunting license. It is not a reward for the search, but compensation for its successful conclusion"*) Tossing out the mere germ of an idea does not constitute enabling disclosure. While every aspect of a generic claim certainly need not have been carried out by an inventor, or exemplified in the specification, reasonable detail must be provided in order to enable members of the public to understand and carry out the invention. In addition, selectively delivering a molecule to the nucleus of endothelial cells of a large blood vessel is not considered routine in the art, and without sufficient guidance (in the instant specification) the experimentation left to those skilled in the art is unnecessarily, and improperly, extensive and undue. See In re Wands 858 F.2d 731, 8 USPQ2d 1400 (Fed. Cir, 1988). It is noted that the unpredictability of a particular area may alone provide reasonable doubt as to the accuracy of the broad statement made in support of enablement of claims. See *Ex parte Singh*, 17 USPQ2d 1714 (BPAI 1991).

Thus, the burden shifts to applicant to establish that the invention as claimed is enabled to its full scope in view of the specification as filed, since the Office has clearly provided sufficient evidence and sound scientific reasoning to rebut applicant's assertion.



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Date: 08 May 2003

To: PATREAL PABST	From: Sumesh Kaushal Ph.D.
Application/Control Number: 09/139,425	Art Unit: 1636
Fax No.: 404-817-8588	Phone No.: 703-305-6838
Voice No.: 404 817-8471	Return Fax No.: 703-308-4242
Re: Interview summary	CC:
<input checked="" type="checkbox"/> Urgent <input type="checkbox"/> For Review <input type="checkbox"/> For Comment <input type="checkbox"/> For Reply <input type="checkbox"/> Per Your Request	

Comments:

Please see the attached interview summary

S.Kaushal
GAU 1636

Number of pages 5 **including this page**

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Re: Interview summary	CC:

☒ Urgent ☐ For Review ☐ For Comment ☐ For Reply ☐ Per Your Request

Comments:

Please see the attached interview summary

S.Kaushal
GAU 1636